Empirical and Molecular Formula Chemistry

Name _____

Solutions to Molecular Formula problems

2 A compound with an empirical formula of C_2H_4O and a molar mass of 88 grams per mole.
Empirical formula is given here!
Ans: butyric acid

3 A sweet-smelling compound has a composition of 7.7% hydrogen, and the rest is carbon. Its molar mass is 78g/mol.
Ans: benzene

4 A depressant is found to have a composition of 52.14%C, 13.12%H, and 34.73%O, with a molar mass of 46.02g/mol.
Ans: ethyl alcohol

5 A stimulant is composed of 49.48% C, 5.15% H, 28.87% N, and 16.49% O by mass. It has a molecular weight of 194.2g/mol.
Ans: caffeine

6 A very sweet solid has a composition of 42.1%C, 6.5%H, and 51.4%O, with a molar mass of 342.3g/mol.
Ans: sucrose

7 An ingredient in a cough syrup has a composition of 4.9%N, 7.1%H, 16.8%O, and 71.3%C. Its empirical formula is the same as its molecular formula.
Ans: codeine